

## CLAIMS

For the convenience of the Examiner, Applicant has set forth all pending claims:

1. An access server, comprising:  
a plurality of modems;  
a memory operable to store a performance attribute for each modem;  
an allocation module coupled to the memory and operable to receive a modem request and to select a modem for service according to the modem's performance attribute; and  
a telecommunications interface coupled to the allocation module and operable to couple a remote modem to the selected modem.
2. The access server of Claim 1, further comprising a monitoring module coupled to the modems and the memory, the monitoring module operable to monitor the selected modem's performance and to modify the performance attribute for the selected modem according to the modem's performance.
3. The access server of Claim 1, wherein:  
the memory is further operable to store a plurality of user profiles; and  
the allocation module is further operable to receive a user identifier associated with the modem request, to identify a user profile associated with the user identifier in the memory, and to select a modem for service according to the modem's performance attribute and the user profile.
4. The access server of Claim 3, wherein:  
each user profile indicates a subset of modems; and  
the allocation module is further operable to identify a subset of modems according to the user profile and to select a modem for service from the identified subset according to the modem's performance attribute.

5. The access server of Claim 3, wherein:  
each user profile indicates a criterion related to a performance attribute; and  
the allocation module is further operable to identify a criterion according to the user profile and to select a modem for service according to the criterion and the modem's performance attribute.

6. The access server of Claim 1, wherein the allocation module is further operable to remove a modem from service according to the modem's performance attribute.

7. The access server of Claim 1, wherein:  
the performance attribute is a call success rate; and  
the allocation module selects a modem for service by identifying an available modem associated with the highest call success rate.

8. The access server of Claim 1, wherein:  
the performance attribute is an average data transfer rate; and  
the allocation module selects a modem for service by identifying an available modem associated with the highest average data transfer rate.

9. The access server of Claim 1, wherein the modems are digital subscriber line (DSL) modems.

10. A method of selecting a modem for service, comprising:  
storing a performance attribute for each of a plurality of modems;  
receiving a modem request;  
selecting a modem for service according to the modem's performance attribute; and  
coupling a remote modem and the selected modem.

11. The method of Claim 10, further comprising:  
monitoring the selected modem's performance; and  
modifying the performance attribute for the selected modem according to the modem's performance.

12. The method of Claim 10, further comprising:  
storing a plurality of user profiles;  
identifying a user profile associated with the modem request; and  
selecting a modem for service according to the modem's performance attribute and the user profile.

13. The method of Claim 12, further comprising:  
identifying a subset of modems associated with the user profile; and  
selecting a modem for service from the identified subset according to the modem's performance attribute.

14. The method of Claim 12, further comprising:  
identifying a criterion according to the user profile, the criterion related to the performance attributes of the modems; and  
selecting a modem for service according to the criterion and the modem's performance attribute.

15. The method of Claim 10, further comprising removing a modem from service according to the modem's performance attribute.

16. The method of Claim 10, wherein:  
the performance attribute is a call success rate; and  
selecting a modem for service according to the modem's performance attribute comprises identifying an available modem associated with the highest call success rate.

17. The method of Claim 10, wherein:  
  
the performance attribute is an average data transfer rate; and  
  
selecting a modem for service according to the modem's performance attribute comprises identifying an available modem associated with the highest average data transfer rate.
18. The method Claim 10, wherein the modems are digital subscriber line (DSL) modems.
19. An apparatus for selecting a modem for service, comprising:  
  
a memory operable to store a performance attribute for a plurality of modems; and  
  
an allocation module coupled to the memory and operable to receive a modem request, to select a modem for service according to a performance attribute stored in the memory, and to communicate a modem identifier associated with the selected modem.
20. The apparatus of Claim 19, further comprising a monitoring module operable to monitor the selected modem's performance and to modify the performance attribute for the selected modem according to the modem's performance.
21. The apparatus of Claim 19, wherein:  
  
the memory is further operable to store one or more user profiles; and  
  
the allocation module is further operable to identify a user profile associated with the modem request and to select a modem for service according to the user profile.
22. The apparatus of Claim 21, wherein the allocation module is further operable to identify a subset of modems according to the user profile and to select a modem for service from the identified subset according to the modem's performance attribute.
23. The apparatus of Claim 21, wherein the allocation module is further operable to identify a criterion according to the user profile and to select a modem for service according to the criterion and the modem's performance attribute.

24. The apparatus of Claim 19, wherein the allocation module is further operable to remove a modem from service according to the modem's performance attribute.

25. The apparatus of Claim 19, wherein:  
the performance attribute is a call success rate; and  
the allocation module selects a modem for service by identifying an available modem associated with the highest call success rate.

26. The apparatus of Claim 19, wherein:  
the performance attribute is an average data transfer rate; and  
the allocation module selects a modem for service by identifying an available modem associated with the highest average data transfer rate.

27. The apparatus of Claim 19, wherein the modems are digital subscriber line (DSL) modems.

28. Modem selection software embodied in a computer-readable medium and operable to perform the following steps:  
storing a performance attribute for each of a plurality of modems;  
receiving a modem request;  
selecting a modem for service according to the modem's performance attribute; and  
coupling a remote modem and the selected modem.

29. The modem selection software of Claim 28, further operable to perform the following steps:  
monitoring the selected modem's performance; and  
modifying the performance attribute for the selected modem according to the modem's performance.

30. The modem selection software of Claim 28, further operable to perform the following steps:

- storing a plurality of user profiles;
- identifying a user profile associated with the modem request; and
- selecting a modem for service according to the modem's performance attribute and the user profile.

31. The modem selection software of Claim 30, further operable to perform the following steps:

- identifying a subset of modems associated with the user profile; and
- selecting a modem for service from the identified subset according to the modem's performance attribute.

32. The modem selection software of Claim 30, further operable to perform the following steps:

- identifying a criterion according to the user profile, the criterion related to the performance attributes of the modems; and
- selecting a modem for service according to the criterion and the modem's performance attribute.

33. The modem selection software of Claim 28, further operable to perform the step of removing a modem from service according to the modem's performance attribute.

34. The modem selection software of Claim 28, wherein:

- the performance attribute is a call success rate; and
- selecting a modem for service according to the modem's performance attribute comprises identifying an available modem associated with the highest call success rate.

35. The modem selection software of Claim 28, wherein:  
the performance attribute is an average data transfer rate; and  
selecting a modem for service according to the modem's performance attribute comprises  
identifying an available modem associated with the highest average data transfer rate.

36. The modem selection software of Claim 28, wherein the modems are digital  
subscriber line (DSL) modems.